ABSTRACT

A method and apparatus for determining capacitance of wires in an integrated circuit is described. The capacitance information derived according to the invention can be used, for example, to calibrate a parasitic extraction engine or to calibrate an integrated circuit fabrication process. The capacitance information can also be used for timing and noise circuit simulations, particularly for deep sub-micron circuit design simulations. Briefly, the invention allows measurement of both total capacitance of a line and cross coupling capacitance between two lines by applying predetermined voltage signals to specific circuit elements. The resulting current allows simple computation of total capacitance and cross coupling capacitance. Multiple cross coupling capacitance can be measured with a single device, thus improving the art of library generation, and the overall method is free of uncertainties related to transistor capacitance couplings. The capacitance values obtained can then be used to calibrate procedures, processes, devices, etc.